

We claim:

1. A method for trimming a circuit device containing trim elements, the method comprising:

applying, in an online mode of operation, one or more trim bit sequences to the circuit device;

evaluating, in said online mode of operation, the effect on the circuit device resulting from each of the trim bit sequences applied thereto, without physically altering any of said trim elements;

determining, in said online mode of operation, one or more optimum trim bit sequences required to achieve a desired test results; and

permanently adjusting, in an offline mode of operation, one or more trim elements of the circuit device in accordance with the determined one or more optimum trim bit sequences.

2. A method as in claim 1, wherein said circuit device is connected to an external electrical measurement apparatus during said online mode of operation and is disconnected from said external electrical measurement apparatus during said offline mode of operation.

3. A method as in claim 2, further comprising the step of generating and storing a data base representative of said one or more optimum trim bit sequences.

4. A method as in claim 2, further comprising the step of generating and storing a data base of information obtained in the online mode of operation.

5. A method as in claim 3, further comprising the step of generating and storing a data base of information obtained in the online mode of operation.

6. A method as in claim 3, wherein said data base comprises a wafer map.
7. A method as in claim 4, wherein said data base comprises a wafer map.
8. A method as in claim 5, wherein said data base comprises a wafer map.
9. A method as in claim 1, wherein, after the completion of trim bit sequences evaluation, the online mode of operation is permanently disabled and the offline mode of operation is permanently enabled.
10. A trimming circuit for use in trimming a circuit device containing trim elements, the trimming circuit comprising:
 - one or more trim elements;
 - one or more trim bit subcircuits, each of said trim bit subcircuits being associated with one or more trim elements; and
 - associated circuitry operative in online and offline modes of operation of said trimming circuit.
11. A trimming circuit as in claim 10, wherein said associated circuitry is operative, during said online mode of operation, for permitting the external application of trim bit sequences to said circuit device.
12. A trimming circuit as in claim 11, wherein said associated circuitry comprises a shift register for enabling external input or programming of said trim bit sequences.
13. A trimming circuit as in claim 12, wherein said shift register comprises one or more trim bit subcircuits.
14. A trimming circuit as in claim 13, wherein:

each one of said trim bit subcircuits is associated with a particular trim bit; and

each one of said trim bit subcircuits is associated with one or more trim elements.

15. A trimming circuit as in claim 14, wherein each of said one or more trim bit subcircuits comprises a bistable flip-flop circuit.

16. A trimming circuit as in claim 14, wherein said one or more trim elements comprise one or more fuses.

17. A trimming circuit as in claim 16, wherein said one or more fuses comprise one or more polysilicon fuses.

18. A trimming circuit as in claim 16, wherein said one or more fuses comprise one or more metal fuses.

19. A trimming circuit as in claim 14, wherein said one or more trim elements comprise one or more Zener diodes.

20. A trimming circuit as in claim 14, wherein said one or more trim elements comprise one or more memory circuits.

21. A trimming circuit as in claim 10, wherein each of said one or more trim bit subcircuits comprises:

a current source connected to a selected one of upper and lower power supply rails;

a switch connected to a remaining one of said upper and lower power supply rails; and

a fuse connected between said current source and said switch.

22. A trimming circuit as in claim 15, wherein each of said one or more trim bit subcircuits comprises two fuses, connected in series and to the one of said bistable flip-flop

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100

Journal of Interpersonal Violence 27(10)